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For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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The safety of our nation depends on community defense against disease at home as well as on success in the struggle against Prussian autocracy abroad. Through the development and extension and improvement of the public health nursing service we can help to build up the national forces that can win the war, and we can render to our allies through this peculiarly American type of social service, material aid in the reconstruction that must follow afterwards.

C.-E. A. Winslow

THE

Journal of Home Economics

VOL. X OCTOBER, 1918 NO. 10

TEACHING THE CLOTHING BUDGET

JANET G. CATION

Iowa State College

A few years ago, a young boy was working for a dry goods store during his Christmas vacation. He was assigned to a delivery wagon with another young man and his new job increased his appetite to such an extent that he found it necessary to stop at his home several times a day for something for himself and his pal to eat. One night when he came just at supper time his mother asked him to bring his friend in for supper.

The friend, after eating heartily, remarked that that was the best meal he had eaten since he had been married two years before. He then told his hostess how, soon after completing high school, he had eloped with his childhood sweetheart, never dreaming of the future, of their parents' wrath, of being turned out of their homes and thrust entirely upon their own resources; yet this was exactly what happened to him.

He had had no training for commercial work, nor for a skilled trade, and the only thing which offered itself at that time was driving a delivery wagon for which he received ten dollars a week. He and his wife found some furnished rooms, and started housekeeping. The young wife was no more ready for her profession than was her husband for his, but she had no difficulty in starting a grocery charge account. Her first week's bill was $12.00.

"We got behind then, and we've never been able to catch up," he concluded.

What a tragedy for two young people to go through high school without learning the best way of dividing a dollar!

A domestic science teacher tells this story:

A few years ago I taught where I could go home for an occasional week-end. I was continually surprised at the seemingly unnecessary things my sixteen year old sister was always buying. I often said to my mother, "Why did you let Margaret get that?"

"Well, all the girls in the neighborhood have it and I hate to have her go without," the reply would usually be.

Many times I would hear Margaret ask, "May I get a certain thing? Ruth has it." If her first demands weren't successful, her later ones usually were.

One time, my mother had twenty dollars to spend for a dress, and instead of getting the dress, she put ten of it into a muff for my sister.

This time I became angry. I remarked, "How far is this thing going? Do you let Margaret get everything she wants?"

"You have no idea of the problem of the mother with a moderate income, whose children associate with girls who have everything they want," my mother replied. "I'll do a good deal to keep peace in the family."

Several months passed, before I realized that I was to blame for this state of affairs. I wasn't helping them solve their difficulties.

The time came when Margaret wanted a new party dress. "Whom in the family do you want to go without something in order to let you have it?" I asked. She didn't want anyone to go without, but didn't see why any one should.

Then we sat down and did some figuring. We looked up the division of the income in Kinne and Cooley and found that only 15 per cent should be spent for clothing.

We divided that amount up between the five members of the family, giving her by far the largest share, because being a girl, she needed more than our brother who was also in high school. Being sixteen she needed more than our ten year old sister, and couldn't have things made over so easily. Being out every day, she needed more than mother.

Next we computed in a rough way, the cost of her clothes for the past year, and found that she far exceeded her rightful share.

"Now," I said, "it is no problem for Ruth to buy clothes, for her father makes much more money than our father does, but you have a wonderfully interesting problem, and we'll not tell anyone, but we'll see how well we can solve it."

"Not tell anyone," she replied, "I want to tell Mary and Louise right way, so we can all do it."

So I helped all three girls plan their budgets, and when I came home I had all three to look over.

Meanwhile the other mothers confided that they could not afford all they got for their girls, but let them get things because the others all had them.

All three girls are still keeping budgets. All, now, have their allowances, and the question of clothes is rarely mentioned in our homes.

Last summer, I was on a street car with one of my pupils. I never saw her look so attractive, and I said to her, "Francis, that is the prettiest dress I've ever seen you wear."

"Yes," she replied, "I just teased and teased pa for it. He didn't want me to have it, but I finally got it out of him. It cost $16.50."

If girls understood the division of the income, would they tease and tease for things? Would they be willing to see $16.50, from a week's salary that was not much larger, go for a single dress? Would these children make their parents miserable by wanting more than their share?

Why have we not taught the clothing budget? Perhaps the main reason is that we have had no concrete information in our books as to how to do it.

How shall we begin? I usually start by explaining to the girls that the budget is merely a plan to determine in advance the sum one may spend for clothing for the year. As a foundation for the work, an inventory must be taken of the clothing on hand.

If girls have never done this, they will think it is an impossible task, for they can not remember what they have, nor what their clothes cost. They will find it much simplified when they group their clothing into outer garments, under garments, shoes and stockings, hats and gloves, miscellaneous (as handkerchiefs, ties, veils, and ribbons).

Our next step is to choose an income of $1200, since we try not to be personal. Although this is higher than that of the average of our students, it is difficult to do much figuring with anything less.

The division of the income has changed materially since prices have advanced, but economists do not allow us any more for clothing; so for our $1200 income, we must keep as nearly as possible to our 15 per cent or 20 per cent at most.

We selected the typical family of three children, choosing as the ages a girl of sixteen, boy of fourteen, and girl of twelve. Next we divided the $240 into amounts for each member of the family.

Now we returned to the girls' own budgets. Most of them were about $125 and it did not take them long to see that they were too high.

How to reduce them was our next problem. We analyzed the budgets, picking out the necessary things, and the things they seldom wore. This brought up the question of how they bought things and why they bought them. Perhaps they were attracted by a belt or a tie which was only a fad and did not harmonize with their other clothing.

It is the experience of most people that the useless things in the wardrobe are those things bought on the spur of the moment, without thought of future use. I myself once bought a dress to wear to an exclusive party. It was exactly the thing for that party, but I did not stop to think that it would be many a month before I should have another occasion to wear such a dress. It hung in my closet for years. I think I wore it three times in all. It would have been far better for me to have bought a much simpler dress that I might have worn on more occasions.

The best dressed woman I know has one of the smallest wardrobes I have ever seen. She plans her clothes so carefully that she never has even one superfluous thing. She does not decide suddenly, but thinks months ahead of what will suit her needs for the next season. She told me in June what she intended getting this fall, and I know that when I see her, I shall find that she got practically what she said she would.

Careful planning, then, is necessary if we live on a budget. In our budget study at Ames, we decided that in order to do this careful planning we must know something about values in our own town. Such questions came up as: How much must we pay for a ready-made dress? How cheaply can we duplicate the ready made dress? How much better dress can we have, if we make it, putting the cost of the ready made garment into material? Through an appropriation at the college, we were able to make some garments to find out the answers to these questions. I think the same scheme could be worked in any school, through the coöperation of the mothers' club, for many mothers would gladly furnish materials, if they could have the completed garments.

I had made the remark earlier that one could make a dress for the twelve year old girl for a certain low sum, for I had done that very thing a few weeks before. I live in a city where each year a store has a big mill-end sale, and sells remnants of standard materials at a very low price, and the question came, "Can we buy things as reasonably in the small towns?" We found some very inexpensive ginghams marked down on account of undesirable colors, and got samples of these materials and made the laundry tests. We also tried setting the colors before we made them up to be sure these cheaper materials would give satis-

faction. The fact that there was a real purpose in these tests made the girls much more interested in them than they would have been otherwise. These tests were made in January, 1917, but the comparison will still hold good, although 1918 prices have greatly advanced.

The result of our study of values showed us:

1. The average priced good ready made dress cost $1.50.

2. An exact duplication made in our class cost 78 cents for materials. Although the home made was half as cheap, 72 cents for labor was not high. Since we have many girls from farm homes, we must decide whether it will be more economical to make clothes, or spend the time on remunerative farm work.

3. If we put the $1.50 into material, we could make a dress equal to a $3.50 ready made.

4. Bloomers could be bought as economically ready made as we could make them.

5. Petticoats could be made for about half the cost of ready made.

6. Nightgowns could be bought reasonably.

7. There was a decided saving in buying ready made clothing at the end of the season, or garments which were soiled.

Through shopping both in a large city and a small town, I found that in the small town the standard materials are apt to be a little more expensive, but the more expensive materials were far cheaper.

In ready made clothes, since there was not the demand in Ames for the expensive garments, the better grade garments were cheaper than in nearby cities, although the assortment was not so large.

I could only warn my girls of the snares of bargain counters that one often meets in the cities, for I found no bargain counters where inferior goods were brought in to be pawned off on the unsuspecting public.

My second year girls compared ready made and home made wool dresses. We bought the cheapest ready made dress that contained any wool, then bought material and made a wool dress for the same price. (These comparisons were made before the wool shortage was apparent.)

We tried the alkali tests on the two pieces, and found that the home made dress was of far better material. We considered, too, the value of making over a wool dress. We ripped up an old suit, washed, dyed, and pressed it. Meanwhile we learned the characteristics of wool, much better than if we had only talked about them. The girls learned more in planning that dress and making it, than they did on any other problem during the year.

Although we proved that wool dresses that cost about $15 ready made, could be made for $7, several of the girls were not willing to give up the ready made ones. They liked the spick span tailored look, and thought a home made dress looked the part. All could see, however, that if they had only $7 to spend for a dress, and they desired a $15 one, something must be sacrificed.

Our budgets as they finally stood were: $45 for the 12 year old girl; $50 for the 14 year old boy; $80 for the 16 year old girl. These were not as low as they should be, for this left only $70 for the clothing for the mother and father, but it is difficult to do any better unless the children are much younger than those we have chosen.

Let us consider again the high school girl's budget. We found last year that on an average the per cents for different divisions of clothing were: 50 per cent for outer garments; 12½ per cent for under garments; 18 per cent for shoes and stockings; 12½ per cent for hats and gloves; 7 per cent for miscellaneous. These per cents will probably have to be changed the coming year, when a larger amount will be needed for shoes and stockings. This amount may be taken from hats and gloves or miscellaneous. Last winter, several girls found that they could reduce their glove allowance by substituting cotton mittens for the kid gloves which they had been in the habit of wearing. They not only saved money but also had the satisfaction of feeling that they were conserving leather.

In our budgets for $80, the amounts for the different divisions were: $40 for outer garments; $10 for undergarments; $14.40 for shoes and stockings; $10 for hats and gloves; $5.60 for miscellaneous.

Does this not suggest problems to the teachers of Domestic Art? Does it not give an extra responsibility in planning our sewing courses?

If we figure in the budget that $10 should cover the cost of underwear for the year, and if we allow 75 cents as my girls did last year for a petticoat, should we not show them how attractive a garment can be made for that price?

Simple handwork, stickerei braids, and scalloped ruffles of the materials should take the place of laces and embroideries. The ingenious teacher must never stop her quest for inexpensive trimmings and suitable designs for handwork. For the past two years, I have not used one yard of embroidery in my high school classes, and the results seem equally satisfactory to the daughters of college professors getting $3000 a year and college janitors getting $700.

In connection with our budget work this year we must lay great stress on the use of the other textiles in place of wool.

We should also urge the girls to see that no wool is wasted. If a girl outgrows a wool dress, she should remember that there are many people in need of it, both in our own country and abroad. If the dress has to be remodelled, there should be a place in the curriculum for such work.

It seemed as if the lovely colored sweaters so much in vogue last year were just as popular in June, 1918, as earlier in the year, among our high school girls. Are we doing everything we can to inform the pupils in our schools of the wool shortage? Would they be as anxious for the sweaters, attractive as they are, if they realized that the wool which goes into them may be actually needed to keep the soldiers warm?

Budgets must not be a series of lessons, which we finish quickly. They must be lived every day in our clothing work. Every teacher should know the value of the budget through her own experience.

Finally, all summed up, the following are the reasons why we should teach the clothing budget:

1. More than ever before it is necessary to understand the division of the income.

2. It is only with most careful planning that the family can be clothed on 15 to 20 per cent of the income.

3. It is necessary to understand values in order to do this careful planning.

4. Budget work makes the study of textiles more practical and interesting.

5. It gives an economic aim to our sewing courses.

6. It will help a girl while she is in high school; it will be useful also if she goes to college, or into the business world; it should be invaluable if she becomes a homemaker.

7. With the increased cost of food, coal, and clothing, families with several children are living under a tremendous strain, such, probably, as they have never experienced before.

If we can do anything to help the mothers solve their problems, or make the girls more contented with what they have, we are giving the community the service which they have a right to expect from us.

MON-DAH-MIN, AND THE RED MAN'S WORLD OLD USES OF INDIAN CORN AS FOOD

HEN-TOH, WYANDOT

Perhaps more has been written about corn during the past few months than ever before in the world's history. That America taught the world the use of it is an undisputed fact; that it is the one most useful, popular, and productive cereal is as true. One cannot help but wonder that if, when Columbus discovered corn in the Western world, and carried it back to Spain, instead of the wealth of gold that so many of the early discoverers hoped to find and carry back with them, he ever dreamed of the benefit he was bringing to the future generations of his world, and of the wealth of gold that would be acquired by the knowledge and cultivation of the grain which he had found grown by the so-called savages of America.

Scant credit has ever been given the Indians of North America as agriculturists, nevertheless when the first white men came as settlers to the New World, they found the Indians, in their crude way, cultivating corn, beans, pumpkins, and other products. Each of these furnished the tribes of the Eastern part of the country staple articles of food; and there was no settled village but had its fields where these were grown in sufficient quantities to furnish a large part of the winter stores.

That the corn was the most popular of these products with the Redman, is evidenced by the beautiful legend in their folk-lore of its origin. This tradition, pictured in Mr. Longfellow's Hiawatha, has been credited by Mr. Schoolcraft to the Ojibways; yet the same legend with slight variations was current among the traditions and lore of all of the Eastern tribes, dating back perhaps to an age when there were no tribal divisions, but all of the Indians were as one people. I have heard the legend from the lips of old Indians of the Wyandot, Seneca, and Shawnee tribes, during my childhood.

I can recall listening to it and to many other old Indian stories, from the lips of an aged Aunt who lived many years in my mother's family. Her version was as I give it here.

In the very olden times a poor Indian lived with his family in a beautiful part of the country. He was poor indeed, and not only that but he was not a good hunter so he did not have an easy time getting food for his family.

He was a good and kind man, however, and never forgot to be thankful to the Great Spirit for all that he received. This gentle disposition was also shown in his eldest son, who from his earliest childhood had always been most kind and thoughtful to and for everyone.

When the time came that this gentle youth was passing from boyhood to young manhood, it became necessary for him to undergo the ceremony of fasting and seclusion for a period, to know what kind of a spirit would be his guide through life, and to ascertain what would be his vocation.

In the days of early spring, his father built the boy a little lodge in a secluded spot, where he would be in no way disturbed during the sacred rite, and the boy, after preparing himself in the customary manner, went to his quiet lodge and began his fast. For a time during the first days he took long walks through the deep quiet forest and over the hills, watching the early springing grasses and flowers, and wondering about the great power that caused them to grow and develop. Returning to his lonely lodge exhausted in body, he would throw himself down on his rude couch of skins and fall into a deep sleep. His mind, stored with the thoughts of the plants and flowers, would bring to him pleasant dreams of them; until his one thought was that his guardian Spirit might be one that would bring to his people something that would be a greater blessing than was hitherto known to them; something that would make it easier for them to procure food than by hunting and fishing. Surely the Great Spirit would allow them this blessing.

On the third day he was weak and faint, and while lying on his couch he fancied that he saw a handsome youth about his own age coming slowly towards him from the distance. This youth was gaily dressed in lightly flowing garments of many shades of green; on his head he wore a feathery plume of pale yellow and every movement that he made was easy and graceful. He quietly entered the door of the boy's lodge and stood smiling before him saying:

"I come to you, my friend, from the Great Spirit who has made all things. He knows that you desire not to become a great warrior, and so win praise, but that you long to bring about some greater blessing to all of your people. I am sent to instruct you how your wish can be realized." He then told the boy to arise and wrestle with him, for it was only by such means that his wish might be gained. The boy felt that his fasting had weakened him; yet his courage was so great that he arose and determined to conquer his handsome opponent. The trial began and when the

boy was nearly exhausted and felt that he must fail, the stranger said: "My friend, 'tis enough now, I will come again to try you tomorrow." Smilingly he passed out of the lodge, and seemed to fade away into the air.

At the same hour on the following day, the youth came again to renew the trial. The boy felt that he was weaker than the day before; yet his courage again arose even stronger, and he wrestled manfully to the point of exhaustion, when again the stranger gently told him to desist, adding: "My friend, tomorrow will be your last real trial. Be strong, for it is only thus that you can overcome me and obtain your desire."

On the third day, the stranger appeared at the same hour, and once more the struggle was renewed. The poor boy was very faint with weakness, and again his courage flamed to greatness and he exerted every power, determined more than ever to win the contest or to perish. At last the handsome stranger ceased his efforts and said that he was conquered. Seating himself beside the boy he began telling him what he must do to receive the advantages of his victory.

He said: "You have wrestled manfully, my friend, and have gained your wish from the Great Spirit. Tomorrow I shall meet and wrestle with you for the last time; and when you have thrown me down, you will strip me of my beautiful garments. You must clear this spot of weeds and grasses, make the earth soft and bury me beneath the soft clean soil. Leave me there and do not disturb me, but come often to see if I have yet come to life. Be very careful not to let the weeds and grasses grow upon my grave, and every few weeks dig up the soft dirt above me and put over me another covering of the soft earth. If you do all this, you will obtain your wish to do good to your fellow creatures."

In the early morning the boy's father came to the lodge bringing a small bowl of food, saying: "My son, your fast has been as long as custom requires. If the Great Spirit is to grant your desires he will do it now. Seven days have passed since you have taken food, and the Master of Life does not ask that you sacrifice your life."

"My father," the boy replied, "wait until the sun is there," and he pointed to the western horizon. "I must extend my fast to that hour."

"Very well," sorrowfully returned the old man, "I shall wait until that hour comes and will return."

At the usual hour, the stranger came, and the wrestling was renewed. The boy had not taken any of the food his father had brought; yet he felt that new and mighty strength had been given to him. He grasped

his supernatural antagonist, threw him down and took from him his beautiful garments of green, and his yellow plume. Finding him dead, he buried his body at once on the spot, being very careful to observe each and all of the instructions that had been given to him. He felt assured that his friend would again come to life.

Then he returned to his father's lodge and ate lightly of the food that was at once placed before him.

Never for a moment did he forget the grave of his friend; but visited it often and kept the weeds and grasses from growing on it. One day late in the summer when his father had returned from a hunting trip, he asked him to go with him to the scene of his fast. In the midst of the spot where the boy had buried his friend there was growing a stately and beautiful plant with nodding plumes, broad and graceful leaves, and clusters of grain on each side.

The boy pointed to it and said: "Oh my father! See, this is my friend, and the friend of all of our people. It is Mon-dah-min. Henceforth we will not need to depend on the chase alone for our food, for as long as this gift is cared for, the earth alone will give us food. This, oh my father, is what I fasted for and the Great Spirit has heard my voice and given to us this new blessing."

Gathering some of the ears, the father and son took them to their lodge, and the whole family joined in a feast of the new-grown ears of corn, not forgetting to thank the Great Spirit for the treasure that had been given them. It was in this way that corn came into the world.

Tradition says further that this first corn was the red, white, and blue-grained flour corn, or as it has been called, "squaw-corn," and this even today is the most highly prized. For generations the seed has been preserved, and its uses as food have been handed down. Go into any Indian country, and you will most certainly find it in use.

The popularity of corn among the Indians is shown by the many different ways in which all of the various tribes prepare it for food. Many of such methods of preparation, long used by the Indians and handed down and taught from one generation to another within the tribes, have never become widely and popularly known. Some of these were almost universally used while others were peculiar only to certain tribes.

Any written recipe for the making of, as they are called in the Wyandot tongue, Tohn-tah, Eh-shren-tih, Skeh-anh, Neh-hen-tah-wih, and Teh, yes, and No-muh-shren-dah-tah-rah, is something strange to think of; yet each of these unpronounceable names designate a separate and dis-

tinct preparation of food made from the Indian corn, that has been well known and relished by all of the Eastern tribes and their descendants for ages past. The method of preparation in each tribe is the same, yet each tribe gives the product a name in its own language or dialect. Among the remnants of the Wyandot, Shawnee, Seneca, Ottawa, Peoria, Miami, Quapaw, and Delaware tribes, as well as many others, some or all of these products are yet made, and prove to be the most substantial of their winter stores. Among many families with only a mere trace of Indian blood these products are considered of the choicest, and no field or garden is without its squaw-corn patch for the making of these most palatable dishes, and the white settlers living among the Indians are always anxious to secure a supply of these Indian products.

All of them are what would be generally termed, "dried corn;" yet the different way in which each one is prepared and then cooked for the table, makes it quite a distinctive dish. In all probability, Neh-hen-tah-wih is the most popular. It is made in this way. The blue and red squaw-corn is taken when in roasting-ear, and roasted over hot coals until the milk is cooked, the grains being slightly parched. Care must be taken not to scorch or burn them. The time honored way of roasting corn, among the Indians, was to dig a trench about a foot in depth, and from eight to ten feet long. A fire of green and dry logs was made in this trench, and allowed to burn down to a good bed of hot and glowing coals. The roasting-ears were gathered and husked, and the long stems or shanks left on the ears. A forked stick was driven in the ground at each end of the trench, and a green pole placed across. Along each side of this pole, with their ends resting on the ground were placed the ears of corn, and when the side of the ear just over the hot coals was roasted, a turn of the ear was made, and the other side roasted. This is not an easy task by any means; but is on the contrary, well termed in the present day vernacular, "a hot job." My brother and I when making the winter's supply last season, found it much easier to stretch a strip of chicken wire over the trench of coals, and lay the ears on this. When the corn is all roasted and the ears have cooled, the grains are shelled from the cobs with a spoon or a knife, and are then thoroughly dried either in the sun or in a dryer, and put away in sacks for winter use. The sacks of corn should be put out in the sun for a time every few days, for a month or more after it is made. This drives away any moisture that might cause the corn to mould.

When Neh-hen-tah-wih is to be cooked for the table, two teacups of the dried corn will make enough for a family of five or six. It is put into a kettle of cold water, just after breakfast is over, placed on the fire and allowed to simmer and boil until dinner time. Plenty of water is used, for the soup is the best part, and a ham-bone, a piece of bacon, or of bacon rind, is put into the pot for seasoning. Fresh cracklings cooked with this corn make the best soup that one ever tasted.

After the soup has been eaten there is always the greater part of the corn left in the kettle. This can be warmed over in the kettle for another meal, or can be put into a skillet and, with perhaps a bit of other seasoning, makes another most palatable dish, far more so than ordinary canned corn. Any corn that is still left may be warmed over for several days and is better each time. There is never any of it to be thrown away, unless it should sour when the weather is too warm.

Tohn-tah was one of the principal supplies of the Indian warrior, ages ago, carried in a buckskin pouch at his girdle, when he started forth on the war-path or other long journey. It is usually made from the white flour corn or, as the Indians call it, the "bread-corn." The ripened grains are shelled and parched to a crisp brown. These are then ground in a mortar to a fine meal. Sometimes just a bit of salt was mixed with this, and again a bit of maple sugar. Carried on the trail in a buckskin bag, a small handful of this moistened with a little water, or even eaten dry, made a hurried yet sustaining meal, both palatable and nutritious. Since the war-path and the hunting trail are things of the dimming past, it has been found to be as acceptable as a breakfast food when moistened with thick cream, and perhaps sweetened with sugar.

Eh-shren-tih is what one might call another of the soup corns, and like Neh-hen-tah-wih is always relished by the new-comer who tastes it for the first time. Like Tohn-tah, it is made from the white flour corn. The corn is gathered when the milk has set and the grain is just beginning to harden. The grains are shelled from the cob with a spoon or mussel shell, and are lyed with wood ashes, then spread out on a cloth in the sun and dried. This makes most excellent soup when cooked for several hours and seasoned the same as Neh-hen-tah-wih; and the cooked corn eaten either cold or warmed over in a skillet with more seasoning is far more tasty than the ordinary hominy. In fact it has a distinctive flavor all its own. In lyeing it, one must be careful to wash it in several waters before spreading it out to dry, so that all of the lye and the outside covering of the grain may be removed.

Teh is the hominy made from the small flinty grained Indian corn. The ripened grain is pounded in a wooden mortar very gently, just enough to crack the grains and to remove the outside covering or hull. No little skill is required to wield the wooden pestle just right so that the grains are not pounded too much. It is then winnowed in a basket and is ready for use. It also makes an excellent thickened soup, and may be cooked as the common hominy. It is good when seasoned with ordinary seasonings; or when eaten as porridge with milk or cream.

There is no soup more delicious than that made by the old Indian women from the green bread-corn, seasoned with jerked or dried venison. The grains are cut from the cobs when the corn is in the milk stage, and the milky mass is slowly poured into the cooking soup which is constantly stirred. This was formerly one of the principal dishes of their Green Corn feasts, held as a Thanksgiving by nearly all of the tribes, some time during the month of August.

No-mush-shren-dah-tah-rah, or bread made from green corn is indeed a toothsome morsel. The white bread-corn or even the ordinary white field corn, is taken when in the milk stage, and the tops of the grains are cut with a sharp knife. The milky substance is then scraped from the ears into a pan or bowl; or sometimes, since the ways of civilization have come to the Redman, the green corn is grated on a coarse grater, and, without putting anything whatever in it, the grated corn is poured into a deep baking-pan, to the thickness of an inch and a half to two inches or more and baked in an oven until the crust is a rich brown. This green-corn bread when eaten warm with a little salt and plenty of butter is most delicious. When the pone has become cold it is crumbled and dried in the sun, making Skeh-anh which is put away for winter use when thoroughly dry.

Skeh-anh cooks quickly and an ordinary teacup full put into a skillet with enough water to cover it will soon fill the skillet. It may be seasoned with butter or cream, or with other seasoning. Sometimes just a bit of sugar is put in when cooking; though others prefer seasoning it at the table with salt and pepper. It makes an excellent dish that is relished by nearly everyone that tastes it; and it has been called the Indian breakfast-food.

I believe that the recipes here given for the various uses of Indian corn have never before appeared in print, or perhaps even been written; yet each and all have been in use in many Indian families for generations. Since my earliest childhood, I cannot recall a season when several of these

various ways of preserving Indian corn for food were not used in my mother's family. She always made or had made a good supply of Neh-hen-tah-wih and Skeh-anh, and also Eh-shren-tih; and her daughters and granddaughters have always done the same. There is never a guest who eats at our table, for the first time, some one of these Indian dishes, but relishes it, and asks what it is, how it is made, and wonders why they have never before heard of it. All of the various dishes are wholesome and highly nutritious, and should be more widely known.

PAPER TEXTILES

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Paper textiles are not new, for the Chinese and Japanese, for a century or more, have used paper twine to wrap packages, paper rope for bales and have even made a fine paper yarn for weaving cloth. In the United States, at the time of the Civil War, some mills were established to produce paper twines to supplement the cotton shortage, but only one factory survived the return to normal conditions.

Present Uses of Paper. At the present time we are using paper for many comparatively new purposes, paper towels, milk bottles, roofing, boats, barrels, waterproof covering for walls and ceilings, artificial flowers, furniture, and string and twine. Recently a patent was taken out for a waterproof, collapsible, oiled-paper umbrella for emergency uses, and tests indicate that this will last for months in heavy wind and rain. On the continent sausages appear in paper jackets. In Austria paper lamp wicks are proving very satisfactory. Paper bagging and burlap are successfully used in Europe, even bags for shipping of vegetables. Paper trunks and paper insulators are well known and even a paper chimney has been heard of. Waste paper is being used for modeling after being pounded and kneaded into a pulp.

Paper (or cellulose) treated with zinc chloride is used in the making of gears, manhole rings, horse shoes, gas pipes, cartwheels, tool handles.

The use of paper for textile materials has been known for a good many years in an experimental way in Germany, Sweden, and England. In

1892 Keller and Turk of Germany produced the first commercial paper twisting machine for transforming a paper strip by twisting into a firm cord or yarn. Now paper twisting machines are no longer a novelty; many are available, two of them of American make.

The paper fiber industry has grown rapidly during the last three and one-half years, because of the shortage of the usual textile fibers. In the different countries attention has been paid to developing certain lines of textiles. Japan is using paper for filling in silk ribbons, print cloths, upholstery goods (with cotton warp and paper filling), horse hair cloth substitute, carriage cloth, etc. Japan is making paper shirts which were used last winter on the Russian front. They were found to be warmer and cheaper than the old fashioned shirt, the only disadvantage being that the paper shirt could not be laundered! England is using paper yarns very largely in the manufacture of ropes and twines. Germany is making many textiles for household use and wearing apparel, as well as bags of paper as substitute for hemp and jute. In the United States, the paper furniture, floor coverings, twine, and bagging industries are already of considerable proportions.

In France the paper mills are producing paper yarns which are made into fabrics satisfactory for wearing purposes. They are soft, flexible, water and air tight, antiseptic, and sufficiently durable to make serviceable garments for the soldiers. Vests and plastrons are woven from the twisted paper yarns. They are frequently backed or doubled with cloth to increase the durability. They can be brushed, handled, and folded into small bulk without injury. These paper garments can be varnished to render them waterproof. One mill uses a concentrated solution of gelatin and fats mixed with drying oils which will permeate the fabrics placed in it. The material is then dried and placed in a solution of formaldehyde and eucalyptus oil. It is now an antiseptic, water tight and air tight garment, light in weight, inexpensive, folding compactly, and very warm. The plastron is worn somewhat like a baseball catcher's protector, weighs 2.6 ounces and can be used for about a month. Undoubtedly these paper vests will prove desirable for automobilists, aviators, and sportsmen.

For some time there have been appearing in our technical and trade journals references to articles in German periodicals on the rapidly increasing use of paper fabrics. However, the German articles do not reach this country except in abstracted form and it is difficult to obtain much

definite data, either as to the preparation of these textiles or as to how satisfactory they prove in use.

Poor people in Germany are using paper beds, sheets and pillowcases, and mattresses. The mattresses are made of strong paper toughened by special process, sewed together, and filled with dead leaves. Germany is producing a woven textile of paper and 20 per cent cotton, which is used for the sheets and pillowcases and also for hosiery, gloves, cravats, suspenders, handkerchiefs, scarfs, towels, children's clothes, aprons, purses, tablecloths, napkins, table covers, jerseys, bandages, and horse blankets. Through Amsterdam we hear of the wide use of men's suits of practically no material but paper. However, the cost of production of paper fabrics is sufficient so that there is little probability that they will be able to compete with cotton in normal times.

It is expected paper yarns will soon be requisitioned by the Government for army use and even now consumption is greater than that possible for the mills to furnish.

German uniforms from the trenches which were sent to England in November, 1917, for analysis showed 8 per cent of animal fibre, part of which was identified as mohair (from Turkey), with the balance made up of paper yarn, a good proportion of flax and a smaller percentage of cotton. This is considered as military information and full data is not available.

References have appeared to very good looking white skirts and shirts for sale by German merchants which after one trip to the laundry are a soggy mass of paper pulp. These appear to be woven fabrics.

Paper belting has been used for light motors. It is woven of paper cord and is of a matting texture but the abrasion of this material is greater than with leather and the durability is much less.

Other uses of paper have resulted from shortage produced by war conditions. In Germany, in place of cotton as a basis of high explosives, they are using chemical pulp made from cellulose (wood, spinning waste or rags, etc.) treated with caustic soda or a sulfite.

At least one German surgeon is using successfully, for dressings and absorbents, such products as cellulose wadding, wood wool and felt, instead of linen and cotton. A Pittsburgh surgeon has experimented extensively with medicated paper, and has found it to be very effective. In addition to solving the gauze shortage, the use of paper for dressings reduces the cost more than 25 per cent.

Manufacturing Processes, Impregnating Solutions. Raw materials for paper yarns are wood cellulose (sawdust), old paper, rags, rope, and the

spinning waste from cotton, jute, flax, and hemp industries. Germany is getting much of her cellulose from pine and cyprus. Since paper board is being made from waste sugar, sugar cane, and corn stalks, probably other waste products will come into use. It is interesting to see the number of materials suggested in the current literature as sources of cellulose, such as many tropical plants, while a corporation has recently been organized in Texas for making paper from corn stalks. Many patents are being taken out for sources of cellulose.

The paper stock is delivered in large rolls 2 to 5 feet long which may weigh as much as 700 pounds to the roll. These are cut into strips $\frac{1}{8}$ inch to 4 or 5 inches in width, wound into solid discs of the same thickness as the large roll. These smaller rolls are then stored in a humidifying room for three or four days.

Different grades of paper are employed, two American mills using tissue paper entirely and another a very cheap grade which until recently it was not thought could be twisted.

The next process is that of twisting, which must be done very carefully. Tissue or thin paper can be twisted either dry or moist but heavy paper must be moist, to give greater pliability. There are a good many problems in this part of the process; for instance, the tension must be watched with a microscope and too much moisture will impair the strength of the yarn. After being twisted the paper strip has increased breaking strength; those tested by Heinke gave a tensile strength five or six times that of the original paper strip.

A good many modifications are used in the twisting process. Often paper is twisted over jute and cotton, covering up loosely spun threads and preventing raveling. Metal wire used in the manufacture of the fibre furniture is covered in the same way.

There are a number of machines in Germany for covering thread and wire by spinning paper yarn over some such foundation. Generally the same machines are used for the weaving of yarn into fabric for paper fabrics as for cloth fabrics.

In the moistening before twisting, water sprays are used, or the strips may be passed through the froth of a solution containing a lathering agent, such as saponin in admixture with soap.

A high tensile strength is difficult to attain in these fabrics on account of the short paper fibre, and after treatment is necessary, such as impregnation to increase strength and resistance to moisture. Generally the dressing contains starch, wax and oil, may contain glue and paraffin, or

rosin, or waterglass, and now one manufacturer is using a viscose coating. The viscose adds strength but the waterproofing quality is questionable. Other ingredients used are aluminium acetate, gelatin mixed with aluminium acetate, gelatin and formaldehyde, tannin solution, tannin and gelatin. Some of these are more or less satisfactory. One solution which is in use and has proved particularly satisfactory for finer yarns is the following: first a bath of glue, tannin, and sodium silicate at 50°C., passage, without drying, through a second bath of basic aluminium formate, and drying. The result from this treatment is a 10 per cent increase in strength in the dry state and an increase of 30 per cent in the wet state.

The water proofing solutions have not yet been entirely satisfactorily worked out. Those used on heavier fabrics such as the rugs, which can be washed without friction, seem to be giving good service but there is still much to be done in this line of research.

Fire proofing solutions are used on paper, some containing as their chief ingredient sodium aluminium carbonate. A starch mixture for fireproofing paper yarns and textiles uses acetyl arabin, corn starch, borax, aluminium sulfite, sodium silicate, ammonium acid carbonate, and white wax.

The dyeing of paper textiles is done in the same way and with the same dyes as in dyeing of cotton except that material of paper when in the wet condition must be handled much more carefully.

The testing of paper fabrics does not seem to have received much attention in this country. A magazine published in Austria describes methods of testing in use in one laboratory as being much the same as for cloth fabrics. The yarn tests are for twist, yarn number, stretch and breaking strength of yarns; the fabric tests, for thread count of warp and weft, yarn number, moisture, weight per yard, stretch and breaking strength in warp and weft directions in (1) natural condition, (2) bone dry, and (3) after twenty-four hours in water. No mention was made of microscopical examination to determine the kind of fibre and condition of same.

An interesting item in the testing of paper fabrics is the amount of moisture held by them. Many contain about 38 per cent when they leave the factory. However, with none of these tests have standards been established as yet.

The American Paper Fibre Rug. The American paper rug, or so-called fibre rug, is already in extensive use. Carpets are going up in price. They are expensive at best and when cheapened durability and quality are

sacrificed. The cheapness of the paper fibre rugs is due to the simplicity of the manufacturing processes and because they are made from cheap and easily available material.

There are three distinct varieties, cotton warp with paper filling threads, cotton or hemp warp with paper and wool filling and the rugs composed entirely of paper yarns. These are woven on a carpet loom, run through a size box containing the mixture for stiffening and setting colors, run over several steam calenders to dry and flatten and the finished rug is ready for the market.

This type of floor covering cleans easily, is sanitary, odorless, and will wear well. In 1916 there were twenty-five factories in the United States making fibre rugs, one with a daily output of twenty-five tons.

The Future of Paper Textiles. There are possible chances for substitution of paper for hemp and cotton because of particular adaptability in certain instances, such as the use of paper twines instead of hemp for the tying of wool, for paper will dissolve and be thrown out in the manufacturing processes whereas hemp will carry through and contaminate the product. Something of the same is true in the meat and tobacco packing industries. But paper textiles are bulky. The hard twisted paper yarns can compete with vegetable fibers in strength but they are about twice as large. When the materials are available the American public can buy linen towels, silk shirts, cotton sheets and pillowcases. There seems to be no reason for substitution of paper where cotton is as available as in this country in normal times, but rugs, furniture, and to a limited extent cords and binding twines have won a place which will last after the unusual market conditions incident to the war have passed.

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COLLEGE STUDENTS' ACCOUNTS

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In the Household Science and Arts work at Pratt Institute we require every junior normal and every institutional household science student to take a course in household administration. Part of the work of this course is the keeping of a personal expense account. For this purpose we used for several years, with more or less satisfaction, a classified expense account book. Any form of accounting which is properly done is necessarily good training for any student—but, nevertheless, we have decided that some other form of account keeping would be more advisable. In the one book on the market that seemed best suited to our use there is not enough room for itemizing, although the classification is good.

For this reason our students are now keeping their accounts on cards with a definite classification and many headings of which they may use for their accounts as many as they see fit. We believe that this form of account keeping will be of very definite use not only in helping a girl to classify her accounts but also in giving her training in classification in general. Anything which will tend to make a student analyze her work, no matter what the subject, must have a very great value. The difficulty with so many students is that they cannot separate the big things from the little, the important from the less important, and subordinate the lesser as they should. Given a general idea of classification of accounts, they will have to make up their minds where the items belong and it will be possible for the instructor to see readily whether they show judgment in their classifying and itemizing.

The figures in table I were compiled and averaged from expense account books kept during 1913–1916. From these accounts it is evident that the expenses of the students remained practically stationary; for the differences in amounts are explained by the facts that the 1913–1914 account is for twelve months, the 1915–1916 for nine months. The differences are chiefly under the headings clothing, carfare, and recreation: the increase in clothing due to the amount spent during the summer in preparation for returning to school in the fall, that in carfares largely to the fare to school in the fall, and that in recreation to summer vacations.

TABLE 1

Comparative expenditures of boarding students for two periods.

	SEPTEMBER 1915 TO JUNE, 1916 (NINE MONTHS)	SEPTEMBER, 1913 TO SEPTEMBER, 1914 (TWELVE MONTHS)
Rent	$101.07	$105.21
Food	121.43	120.96
Clothing	70.68	115.42
Laundry	7.62	8.11
Car fare	23.27	49.65
Health	11.25	11.78
Recreation	4.40	14.17
Education	153.11	130.22
Stamps and stationery	11.17	9.11
Church and charity	18.99	20.49
Incidentals	4.89	6.08
Totals	$527.88	$606.22

TABLE 2

Average expenditures of students doing coöperative housekeeping.

	1913-1914 (NINE MONTHS)	1915-1916 (NINE MONTHS)
Rent	$60.61	$90.00
Food	66.34	90.11
Clothing	70.90	74.91
Laundry	10.01	.79
Car fare	18.68	30.36
Health	22.74	.40
Stamps and stationery	15.52	4.65
Recreation	17.74	3.43
Education	133.11	142.72
Gifts, church, and charity	19.17	15.31
Incidentals	20.24	.15
Totals	$454.71	$452.83

The cost of education for 1915–1916 is $153.11, and for 1913–1914 it is $130.22, but the figures for 1915–1916 include the expense accounts of the household arts students who have to buy materials for dressmaking, design, and handwork. This might be balanced by a decreased yearly cost of clothing. In keeping our accounts the question arose whether materials for classwork in dressmaking should be classified under clothes or education. It has seemed at times better to classify them under education, for a student must purchase these things

in order to do her work and she must plan for that expenditure even if the articles of clothing which she makes would not ordinarily constitute part of her wardrobe.

Few of our students do coöperative housekeeping, but from the figures in table 2 it is obvious that it is an extremely economical mode of living. The low cost for laundry in all cases is due mainly to the fact that the majority of our students send their laundry home.

For the card system we have made out the following classification, which the individual student may modify for her particular needs.

CLASSIFICATION OF HOUSEHOLD ACCOUNTS

Allowances (children)
Care of house
  Outside
  Inside
  Furnishings (permanent)
  Furnishings (not permanent)
  Flowers
Clothing and accessories
  Coats and wraps
  Gowns
  Hats
  Jewelry
  Repair
  Shoes
  Underwear
Education
Entertainment
Express, freight
Food
  Bread
  Dairy products
  Dry groceries
  Fruit
  Ice
  Meat
  Vegetables
  Outside home
  Garbage disposal
Fuel
Gifts (personal)
Gifts (church—charity)
Health
Interest on debts
Laundry
Light
Postage
Professional (or business) obligations
Reading
Recreation
Rent
Savings
Service
Stationery
Taxes
Telephone, telegram
Toilet
Transportation
  Carfare
  Other

Income
Summary
Balance

CLASSIFICATION OF STUDENT'S EXPENDITURES

Church and Charity
Clothing
  Dressmaking class supplies
  Accessories
  Blouses
  Coats
  Dresses
  Hats
  Jewelry
  Shoes
  Underwear
Education
  Tuition
  Books
  Stationery
Entertainment
Food
  Board
  Food other than regular board
Gifts
Handwork
  Design
  Houseplanning
Health
Interest
Laundry
Reading
Recreation
Rent
  Carfare
Savings and insurance
Stamps and stationery
Telephone
Toilet
Transportation
  Car, boat, railroad

Income
Summary
Balance

HOW COÖPERATION IS BEING APPLIED IN A FAR WESTERN UNIVERSITY

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In the Pacific Coast States the principle of coöperation, in existence in this country for years, has been put into successful practice. This is brought out very clearly in a study of the coöperative marketing and canning industries among the fruit growers and farmers. In 1912 the Washington State Horticultural Association organized the fruit growers of Oregon, Idaho, Montana, and Washington into districts for the inspection, grading and packing of their products. It improved marketing conditions, and enabled the growers to secure a fair price, where previously marketing of the crop had been speculation.

The California Fruit Growers Association Society (coöperative) has 4000 growers. The society handles 60 per cent of the citrus output, and also a large per cent of the other fruits grown in the State of California. The Association among other accomplishments has obtained a reduction of freight rates to the East, and an increase in the tariff on lemons. They have expended fifty thousand dollars in national advertising.

The principle of coöperation is observed in our western universities. At the University of Washington the sororities and fraternities have been seriously considering methods of coöperative buying, storing, and distribution of food supplies. Plans and methods have been drafted, and undoubtedly would be in practice at the present time, were it not for the unsettled conditions of our markets due to the war.

The spirit of coöperation is being applied in our University cafeteria. This institution is not run for profit, but meals are served at cost to the students and the faculty members. The cafeteria feeds an average of four hundred students and faculty members each day.

"Let Us Help You Choose Your Food" was the title of a folder recently published for the benefit of our patrons. Cafeteria managers realize that people who eat in public places find it hard to select the proper food. The folder suggested combinations of food which helped the students to select well balanced meals. During the year 1916–1917 the student patron spent an average of fourteen cents for breakfast, nineteen cents for lunch, and twenty-three cents for dinner. The next year the average increased only about three cents per person for each meal.

At the cafeteria we have not only observed the fifty-fifty wheat regulation, but have eliminated wheat entirely, which meant the doing away with yeast breads, leaving in their place hot breads, cakes, and pastries. This, however, was not undertaken until we had placed the matter before our patrons in a voting contest. The returns showed 360 votes in favor of the wheatless diet and two against it; 147 showed no interest.

The spirit of coöperation exists all through the University activities. Each spring a day is set aside as "Campus Day," and professors, as well as students, don working clothes and labor together improving and building up the campus. Last spring seventeen hundred took part, and the problem of feeding this crowd fell to the girls who commandeered the cafeteria, and served 3000 sandwiches, 560 pounds of potato salad, 68 gallons of beans, and 67 gallons of coffee.

THE INTERNATIONAL SCIENTIFIC COMMITTEE

At the session of the Inter-Allied Conference held in Paris in November, 1917, an International Scientific Committee was appointed, to consider the food problems of the Allies and make recommendations to the different allied governments. The committee consists of two members from France, Italy, the United Kingdom, and the United States, respectively, and one from Belgium.

The representatives of the United States are Professor Graham Lusk and Professor Chittenden, and among the others are names almost as well known to food experts in this country. Professor Starling who represented England, and Professor Gley, one of the representatives of France, are honorary members of the American Home Economics Association.

The committee met in Paris on March 25, and in Rome on April 29. The part of their work in which Home Economics is especially interested is their agreement as to the minimum food requirements of the average man. These correspond fairly well with the modification of the Atwater Ration adopted by the United States Department of Agriculture. A man of average weight, doing average work during eight hours a day, requires food that as purchased will yield an energy value of 3300 calories daily. Professor Lusk's figures as to the proportion of this amount to be assigned to women and children of different ages were accepted. While 3300 calories was fixed upon as the desirable amount it was concluded that when it was impossible to supply as much, 10% less might be used for some time without injury to health. The "desirable minimum" ration of fat is given as 75 grams, about $2\frac{5}{8}$ ounces, for an average man per day, an amount somewhat higher than that suggested by the U. S. Food Administration. The opinion was expressed that there is no absolute physiological need for meat, and that therefore it is not desirable to fix a minimum meat ration.

The commission believes that prices should be so fixed that the production of beef and pork and poultry at the expense of food available for man should be discouraged, and that this may be best done by fixing such a price for animal products as will make it unprofitable for the producer to feed them on cereals.

A full report of the conclusions of the Committee is given in the *National Food Journal*, June, 1918.

FOR THE HOMEMAKER

THE HOSTESS HOUSE CAFETERIA

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The table is the social center of most homes; the cafeterias in the hostess houses of the Y. W. C. A. are important social centers at the soldier camps.

The hostess houses are for the soldiers and their visiting families and friends. Those abroad are used by the women serving with the American Army: signal service women, telephonists, telegraphers, and clerical assistants. They are built in order that men and women may have a decent place to meet for several hours, make plans for the future, and say good-bye. Three sizes or varieties are built; small ones for the aviation camps, big ones for the embarkation camps, and houses remodeled from those already on the lands where the camps are located. If the house does not prove large enough to accommodate the visitors who have come to camps in numbers as great as 12,000 in one day, a new house is erected. Some of the camps now have three houses. Thirteen are for colored troops. There are ninety-one in all, including those abroad, and calls for more are coming from the War Department every day.

The cafeteria is no small part of the hostess house for it feeds, as a rule, between one thousand to two thousand soldiers and visitors on Sundays, and varying numbers on other days. The boys who have no visitors like to come to the hostess house and eat, not only because the food is "so good," but because they can be "where there are folks like home folks," a need greatly felt by the homesick soldier boy away from family life for the first time.

The woman who is hostess of the cafeteria needs to be a resourceful person. Hers is not the simple problem of manager of a school lunch room, or a cafeteria for a business firm where stated hours can be adhered to rigidly and where she can calculate ahead for a week or more to a person how many guests to expect each day. She must be a level

headed woman who can meet any emergency, from doing big work in little space to meeting an unexpected embargo of visitors at camp which will mean that no guests will come for some days.

One cafeteria manager described a typical day as follows: "It was but an ordinary day, not a special day in any sense. It had begun with breakfast served to the several who depended upon the hostess house cafeteria for good meals. The first call for food was from a foreigner, who was just out of the hospital and unable to report for duty, and who had come to enjoy the fire.

"At the same time a young girl was being made welcome. She had come in that morning on an early train, and had found that her fiancé was in the hospital, making it necessary for some one else to see that she was cared for.

"A newly arrived private, suffering from the typhoid fever serum came in for toast, egg, and coffee, and sat before the fire for a while before and after his meal.

"Noon lunch was served to 1200 visitors. Supper was served in time for those who desired to get away on the six-thirty train."

What people usually call emergencies belong to the regular work of the day of the cafeteria hostess. The houses abroad have these, as well as those at home. The cafeteria hostess at Paris was called out of bed by an excited maid early one morning with the message that a ship load of Red Cross workers had arrived and needed breakfast. Of course they got their breakfast.

One cafeteria was called upon suddenly to make four thousand sandwiches to feed a visiting delegation. Some of the demands are less strenuous. One morning a Tommy entered the office of the Paris hotel for American women war workers about 8.30 a.m., clicked his heels together and holding out a little tinpail, asked in a very cockney English, "Can you give me any tea 'ere?" What he did with it, no one knew, but he must have made a funny picture walking along the streets of Paris with his little tin-pail of steaming hot tea. French men, in spite of there being no wine or beer, often come to the hostess house cafeteria to get a "good square meal."

Both in this country and abroad visitors and soldiers come who have never eaten at a cafeteria and do the funny things that the uninitiated so often do. One hostess had carefully selected her own dinner from the counter and set her tray down when an officer stepped up,

picked up the tray, received the check and ate the dinner, probably thinking the hostesses were there to select the meals for them.

The hostess houses have large verandas where the families of the soldier can eat the basket lunch brought from home, supplemented, if desired, with coffee and other things from the cafeteria. Thus the boy may share the birthday cake brought from home, or his favorite fried chicken.

The meals at the cafeteria vary somewhat, but usually consist of a hot meat, potatoes and some vegetables, salads, and desserts. The following is a sample menu:

Roast lamb, .20; potato cakes, .10; creamed carrots and peas, .10; macaroni and cheese, .15; 4 or 5 salads, each, .10; ham sandwiches, .10; American and cream cheese sandwiches, .15; cake (3 kinds), .10; pie, .10; cantaloupe or watermelon, .10; peaches—3 for .10; tea, coffee, or milk, .05; soft drink, .05; ice cream .10.

The cafeteria is regulated by the sanitary rules for the army kitchens. It is the duty of the cafeteria hostess to see that they are followed. Immaculate cleanliness must be maintained. The help varies from all colored men in some camps, or all women in others to men and women or soldier's wives and volunteer workers. The larger cafeterias employ as many as thirty-eight persons on busy days. All this help usually has to be trained by the cafeteria hostess. In training ignorant workers or unskilled volunteers, the hostess is doing more than feeding soldiers and their friends. She is teaching the preparation of food, sanitation, and personal cleanliness to many who are working with her. Volunteer helpers come from near-by towns, often by turns, one town to the east of the camp sending seven volunteers on Monday, and another to the south-west fifteen on Tuesday. On Wednesday the workers from the town may be back with a few new recruits to fill the places of two or three who are unable to return, making it necessary for the hostess to train new workers every day. Her success depends to a considerable extent upon her ability to secure and train help which is often very difficult to find. To obtain food is another big problem, as the camps are often located a considerable distance from railroad centers. For example, one camp is twenty miles from one city and forty miles from another, and 100 gallons of ice cream are needed at the cafeteria. The hostess could not get it in sufficient quantities from the nearer city, so she had to arrange to get it from the other. The Y. M. C. A. owns trucks to deliver supplies to the hostess houses and this helps to some extent.

The women who have charge of these cafeterias are as a rule home economics trained people. Needless to say, it is difficult to secure women with the necessary qualifications of resourcefulness, level headedness, tact, business ability, and knowledge of their work, but the work goes on steadily in Government camps and is increasing every week.

CONSERVATION OF TIN

There are only about 120,000 tons of tin produced in the world each year. We always connect tin with Cornwall where mines have existed since the time of the Phoenicians, but these are no longer very important. Most of our tin comes from Southeastern Asia, the Dutch East Indies, and the Strait settlements, and is controlled by the English or the Dutch. Practically no tin is produced in this country. About 100 tons came from Alaska last year. In California a mine that has been operated for 30 years has produced altogether only 150 tons.

There seems no way of increasing to any extent the amount of tin available, and its use has increased greatly. Before the war the United States used each year 4500 tons. Now we need 90,000 tons. England needs more as well. Probably Germany is not getting any tin today.

Tin finds its especial use because of its durability, the fact that it melts at a low temperature, that it is not easily affected by acids, and that it can be easily worked. It is used in the manufacture of tin plate, sheets of steel coated with a very thin layer of tin, $1\frac{1}{2}$ pounds of tin being used for every 100 pounds of plate. This tin plate is used for tin cans, for roofing, for fire doors, for household utensils, and in many other ways. The second use of tin is in the manufacture of alloys for bearing metals and solder. There are many other uses that seem small in themselves but that amount to a good deal in the aggregate. Tin foil for wrapping cheese, chewing gum, candy, or tobacco uses a considerable amount of pure tin, and so does the manufacture of tubes for tooth paste, library paste, and similar articles.

Tin enters into the manufacture of white enamel for bath tubs and cooking utensils. It is used, too, to make silk glossy and in other ways in its manufacture.

The increased demand is largely for tin cans for preserving foods, and for the solder and bearing metals required for engine and motor and auto.

In 1914 the price of tin was 30 cents a pound. This summer it averaged 90 cents and had risen as high as $1.30. The real difficulty though is not so much the price as the lack of tin. The manufacturer is doing his best to save it in small as well as large ways. In making the colsapsible tin tube, for example, an appreciable amount is saved by making the neck and the cap smaller and having one less fold at the bottom. The tubes are not quite as good but no one who knows the reason for the change will complain of them. Much of the tin foil used for wrapping has been for ornament only, as in the case of candies. It is now used only when necessary, and other kinds of foil will be substituted when the article to be wrapped is not food. Thirty per cent less tin may be used in silk manufacture by eliminating some of the colors requiring it and by making the silk less glossy.

Tea and coffee and other articles of food will be sold in non-metal containers except when the metal is essential to the preservation of the food. Containers are to be of few sizes. Evaporated milk, for example, will be marketed in only 14 and 15 ounce cans instead of in four sizes as formerly. Cocoa and chocolate will be put up in packages not smaller than half a pound, or in packages of 1, 5, 10, 25, 50, or 100 pounds, and in general all odd and small sizes of containers will be eliminated.

Tin is to be salvaged as far as possible.

Everyone is asked to save tooth paste tubes, tin foil, and any other pure tin material that comes into their possession, and donate it to the nearest Red Cross center. Scrap tin from the manufacture of tin cans, that used to be thrown away, is now collected and sent to the detinnery plants, and the steel sent to the steel mills.

Many have asked why old tin cans are not collected. The difficulty in their re-use is mainly one of transportation. The cans would need to be cleaned, crushed to save space, detinned, and the solder taken out, because there must be no trace of lead in the material sent to the steel mills, and so far no practical method has been devised.

Meanwhile the using over again of any cans in the household will help just so much.

FIVE FILTHY FINGERS

Did you ever make a diary of your fingers? Did you ever set down in cold black and white the things your fingers touch every day, and did you ever consider the number of times daily that your unwashed fingers seek your mouth?

When surgeons discovered that it was their own infected fingers which carried germs into wounds they set about trying to discover a means whereby their hands could be rendered surgically clean, *i.e.*, free from germs. The whole realm of chemistry was ransacked for agents which would disinfect hands, and the scrubbings and immersions to which they subjected their hands are even yet a tender memory to the surgeons of that period. But all of these efforts proved useless, and at last in despair surgeons took to wearing rubber gloves which could be boiled, thus bringing to each patient, as it were, a fresh pair of sterile hands. In other words, try as you will you cannot by any known method make your hands absolutely clean.

The great agent in the spread of those diseases whose causative organism is present in the secretions of the mouth and nose is the human hand; and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact, most of us carry our fingers to our mouth or nose many times daily, there to implant the germs of disease which other careless people have spread about; there to collect a fresh cargo of infectious material to scatter for somebody else.

It is true that most germs of disease die quickly once they leave the human body, but what does the death of a few billion germs matter so long as the supply is copious and never-ending.

What an enormous number of infected things we touch during the day, and how infrequent and cursory are the hand washings we perform.

The answer is to keep your fingers out of your mouth and nose. Thus we limit the spread of disease from these orifices at least; thus we eliminate the danger of contracting disease from some one else who was not quite so careful.—*Mass. Public Health Bulletin, June 1918.*

When we add to what has been said above the serious possibilities of filth and infection from hands unwashed, or only partly washed, after being soiled in the toilet, the importance of clean hands is evident.—EDITOR.

A GAS MASQUE

Here is a suggestion from the Food Administration that might apply to an impromptu day at a woman's club, or to a school play as well as to the more elaborate harvest festival, or pageant.

Why not arrange a gay masque done in the Elizabethan style—admission nut shells or fruit pits? Call it "A Gas Masque" and let the town crier advertise it so loudly that every fruit pit and nut shell will be turned in. For such a masque fruits and nuts and the season give the setting. A quarrel between the Perishables ("Peaches," "Nutty Nuts," etc.) and the Staples (Wheat—Meat—Fat—Sugar) suggest the argument. Perishables, claiming unjust discriminations at the hands of War Industries, and Shipping Boards, and the Food and Fuel Administrations, lay their case before Jupiter. He is impressed with the beauty of the Fruits and the wit of the Nuts, but knows only too well that the Sons of Mars fight on meat and bread. In the midst of the Olympian clamor Mercury arrives with an imperative call for nut-shells and pits, and the Fruits and Nuts are vindicated as War-Essentials.

For the arrangement of masques and harvest festivals consult Master William Shakespear's "Tempest" and "As You Like It." This is only a suggestion to start your wits working.

MIXED FLOUR

Many housekeepers will be glad when the new mixed flours come generally on the market. They have been delayed by the making of new labels and by some difficulties in regard to the mixed flour law. Soon, however, they will be on sale in even greater quantities than wheat flour. There will be little difficulty in substituting them for the wheat flour that we used "before the war." The mixture with corn flour, for example, will differ very little from pastry flour, or soft wheat flour, in its use. The Victory flours will be:

Mixed Wheat and Barley Flour. Mixed in proportion of four pounds of wheat flour to one pound of barley flour.

Mixed Wheat and Corn Flour. Mixed in proportion of four pounds of wheat flour to one pound of corn flour.

Mixed Wheat, Barley and Corn Flour. Mixed in proportion of eight pounds of wheat flour to one pound barley and one pound of corn flour.

Mixed Wheat and Rye Flour. Mixed in proportion of three pounds of wheat flour and not less than two pounds of rye flour.

Whole Wheat, Entire Wheat or Graham Flour or Meal which contain at least 95 per cent of the wheat berry will also be classed as Victory Flours.

If the housewife desires to buy straight wheat flour instead of any of these mixed flours, she must buy at the same time one pound of wheat substitutes for every four pounds of wheat flour that she buys. Usually the wheat substitutes offered her will be corn flour, corn meal, and barley flour. In some localities, however, where other substitutes are plentiful the housewife may extend her choice to include feterita flour and meals, rice flour, oat flour, kaffir flour, milo flour, peanut flour, bean flour, potato flour, sweet potato flour, buckwheat flour. If she buys these she must buy them in the same ratio, that is, one pound of substitute flour to four pounds of wheat flour. Rye will be sold in the proportion of 2 pounds of rye to 3 pounds of wheat flour.

The use of corn bread and other quick breads that consist of not more than 50 per cent wheat is urged, to effect a further saving of wheat than would be possible if the eighty-twenty yeast bread were relied on for every meal. Cookies, cakes, and pastry may be made from the new eighty-twenty blended flour. This may also be used to thicken sauces, soups, and gravies.

It is to be remembered that we are to use all bread-stuffs with the greatest care, for though the crop of wheat is large some other crops are not so plentiful, and we must build up reserves against such disaster as nearly overtook us last fall.

The victory bread that we are using will be so far as possible the same as that used by the 120,000,000 of the Allies. We want to share in their conservation and use this no more freely than can they.

THE WILD CRABAPPLE FOR JELLY MAKING

KATHARINE MARTINDALE

This article was received too late to be of service this fall but it may help in making plans for next year. Many have been accustomed to breaking off freely in the spring the branches of blossoms of the wild crabapple, and this should not be done if the fruit can all be used.—EDITOR.

This crabapple with the beautiful salmon pink blossoms and the small, green, sweet-smelling fruit abounds in certain parts of the middle western woods—in Wisconsin, Illinois, and Indiana, particularly. Upon a rather extended inquiry I find that relatively few housekeepers know the value of this fruit, and great quantities go to waste each year.

The apples are considered to be better if allowed to mellow slightly by lying on the ground for a few days at least, after falling. Because of a sticky substance coating them it is necessary to clean them carefully using a brush or cloth if desired. In other respects the jelly making process is similar to that used with any other good jelly apple. After cutting them in small pieces, since they are quite hard, cover well with water. Two or three extractions can be made, since there is sufficient pectin and acid present for this. It is desirable to combine the second and third extractions in making the jelly. Sugar in the proportion of three-fourths of a cup to one of the juice should be used.

The jelly is a clear red amber and has a slight characteristic acid taste which is especially delicious with meats and with vegetables.

FAT AND CALORIES

Changing our food customs is difficult because it means also changing our cooking customs. But many dishes can be made with less fat than we are accustomed to put in or with different kinds from those we have hitherto preferred. Often the fat from frying is left in the pan to be washed out and thrown away. If every cook could say to herself, "Every two drops of fat make a calorie and every calorie counts in the world today," it might seem more worth while to hold the pan a minute and drain out the fat for further use. A thousand calories mean a day's life to a baby.—*Every Day Foods in War Time, by Mary Swartz Rose.*

TABLE OF MEASURES

If a recipe calls for 1 pound (2 cups) of sugar and you use

This measure of sugar	and this measure of liquid sweetener	You are using other sweeteners to the extent of
Cups	Cups	Per cent
2	0	0
$1\frac{1}{2}$	$\frac{2}{5}$	25
1	$\frac{4}{5}$	50
$\frac{1}{2}$	$1\frac{1}{3}$	75
0	$1\frac{3}{4}$	100

The resulting product contains the equivalent of one pound of sugar. In substituting by measure, 1 cup of sugar is replaced approximately by $\frac{3}{4}$ cup of the other sweeteners on the basis of total solids (*i.e.*, the sugar and similar substances that are dissolved in the liquid. If the liquid sweetener is glucose or corn syrup, the product will be less sweet than if sugar is used.)

If these substitutions are used in recipes where the amount of liquid used is an important factor, decrease the liquid $\frac{3}{8}$ cup for every pound, or $\frac{1}{4}$ cup for every cup of liquid sweetener used.

—U. S. Food Administration.

It takes 96 level teaspoons, or 48 rounded teaspoons, or 32 heaping teaspoons of sugar to make one pound. There are 96 "half lumps" of sugar in a pound, and 48 cubes of sugar.

The total daily allowance for each person is 6 level teaspoons, or 3 rounded teaspoons, or 2 heaping teaspoons, or 6 half lumps, or 3 cubes. Six level teaspoons is 2 tablespoons.

An ordinary serving of cake, made with a pre-war recipe, might easily contain 1 tablespoon of sugar—half the day's allowance. Do we always remember this?

EDITORIAL

The Need for Nurses. A statement has lately been made in the press that "the nursing needs of the Army have already been met, and that 27,000 nurses have been enrolled by the Red Cross in response to the Surgeon General's request for 25,000 graduate nurses by January 1, 1919." The Surgeon General's office reports that this statement has caused an immediate falling off in the number of inquiries and enrollments and that serious curtailment of the nursing service may result.

The Red Cross has an enrollment of more than 27,000, but not all are available for active service. About 16,000 trained nurses are now on the rolls of the Army Nurse Corps, and 9,000 more are needed by January. July should see 50,000 available, if the sick and wounded soldiers are to be cared for. Nurses should continue to enroll, and young women should enter the Army School of Nursing. This is an opportunity for home economics graduates, whose training should especially qualify them for such work.

The Barrel on the Corner. The majority of people in this country are troubled not by the extent of the demands made upon them "to win the war," but by the fact that they can do so little. They welcome any suggestion of ways in which they can be of the slightest service.

The request to save the dried stones of peaches, plums, prunes, olives, dates, and cherries, and the shells of Brazil and hickory nuts, walnuts and butternuts, and turn them in to the Red Cross to make charcoal for army gas masks, fell upon willing ears. Barrels as depositories appeared in convenient places. Public and private institutions, including hospitals, were asked to join in the campaign. The old-fashioned nutting party was revived. Boy Scouts and Camp Fire Girls began to make collections. In one city a commission merchant received a carload of unsalable peaches. Instead of dumping them, he had his employees remove the stones, and turned in 13 bushels to the Red Cross.

Even "before the war," the use of by-products formed an important element in the profits of manufacturers. Now we are all receiving the best training we have ever had in the utilization of all material. We can never go back to our wasteful ways.

COMMENT AND DISCUSSION

Editor, Journal of Home Economics:

In these days of such unusual interest in food, great care should be taken to avoid publishing statements which will mislead the layman, eager for knowledge. The paper "Dietary Study at Vassar" in your March number is, I believe, such a statement.

Briefly, the figures given are these. In a dietary study at Vassar it was found that the average fuel value of the food for the individual per day was 2698 calories. The average student was 19.4 years old, 5 feet 4 inches high, and weighed 123.9 pounds, and her requirements were estimated as under 2000 calories per day. The student, however, obtained at the Tuck Shops an unknown amount of food in excess of that calculated. From the estimates given in Gephart's paper on the St. Paul school boys, indications in the paper under discussion, and unpublished data on a dietary study conducted by the Carnegie Nutrition Laboratory, 10 per cent of the total calories may be taken as a conservative estimate of the food eaten by students between meals, which would bring the total to 2970 calories per student per day.

Tables were given citing dietary studies from other schools and colleges with much the same figures. The only one of these papers I have seen is that of Gephart, where the large amount of food consumed, 5000 calories (the authors give the number of calories as 4377, which does not include the extras which bring the total up to 5000), is taken to indicate the large requirement of the active growing boy. On the other hand, the authors of the Vassar paper state "We would probably be safe in saying that their requirements vary from 1900 to 2200 calories per day, according to age, size, and activity." The implied conclusion is that the average student grossly overeats.

It is an accepted fact that food consumed and unused as energy is stored as latent energy or body fat. The Vassar student, eating 2970 calories per day and requiring 2200 as the maximum, should be adding to body reserves 770 calories daily, which is equivalent to 81 grams of fat or 2.9 ounces, or 1 pound every 5 or 6 days! There seem to be only two possible logical deductions. Either the student requires more than is calculated or some mistake is made in estimating the food value.

As a loyal Vassar graduate, may I also criticize another statement: "The meals were well balanced?" The authors call attention to the high proportion of fuel value obtained from protein (14.8 per cent),

which is the highest per cent from protein in any of the other schools cited, but which is not higher than the Atwater standard or that found in most dietaries, although it is higher than is now generally considered necessary. No mention is made, however, of the exceedingly high fat content. For a man at moderate work the fat requirement is variously estimated as from 51 to 65 grams daily, or 479.4 to 611 calories in an estimated diet of from 2630 to 3060 calories (Sherman's "Chemistry of Food and Nutrition," new edition, pages 362 and 363). Here we have 1252 calories from fat in a total of 2698 calories (46 per cent).

While, if the individual digestion does not protest and economy in diet is no object, fat may be used in excess of carbohydrate as a fuel, in these days with their cry of "save fat" would it not be the part of patriotism to bring the percentages of the three elements of food nearer the accepted standards? Even assuming the extra food was fat free, the argument would not be affected, as the extra 269 calories bring the carbohydrate to only 1317 calories as against 1252 calories of fat.

CORNELIA GOLAY BENEDICT.

Editor, Journal of Home Economics:

In reply to the above letter we should like to explain:

First, that the paper was not written for the layman, but primarily for the specialist in nutrition and dietetics. Many points of general knowledge were therefore left to be assumed by the reader. A more popular version of this article was published in the *Vassar Quarterly* for May, 1918, in which these points were elaborated more carefully.

Second, we had no intention of making any implication as to whether the food consumption was excessive or not. The actual consumption, which is well within the average as indicated by the comparative table of such results, is stated, and compared with the energy requirements as calculated by the accepted methods. It is left to the reader to form his or her own conclusions as to the reason for the discrepancy, which is probably little greater than would be observed in a study of an average family on a liberal diet. In our more popular article we take pains to point out that "it would hardly be safe to conclude that all these young persons are eating a great deal more than they require. Our theoretical standards may be too small, owing to the existence of factors not yet recognized."

On the other hand we are not aware that the figures obtained by Gephart are anywhere "taken to indicate the large requirement of the active growing boy." As Chittenden says ("Nutrition of Man," p. 158):

> Dietary studies. . . . affording more or less accurate information regarding the average amounts of protein, fat, and carbohydrate consumed under varying conditions are indeed most interesting and important as affording information regarding dietetic customs and habits, but the writer fails to see any reason why such data should be assumed to throw any light on the actual food requirements of the body.

Gephart himself (Rector's *Report*, St. Paul's School, Concord, 1916) referring to the fuel value per meal says:

> These figures appear to be high, but, inasmuch as we have no previous results of this nature for comparison we can only say that they are a revelation.

Mrs. Benedict objects to our statement that the meals were well balanced on the ground that both the protein and the fat were too high. That the protein was high we have ourselves pointed out; that it was too high, we hesitate to say in the light of the rather wide differences of opinion on the part of the highest authorities. Sherman sums up his discussion of the subject by the remark "To allow for varying conditions and for individual preferences as well as to provide a liberal margin for safety it is customary to consider that from 10–15 per cent of the total calories may be in the form of protein." ("Chemistry of Food and Nutrition," 2d ed. p. 382.) In connection with the question of the fat content of the diet it is interesting to note the statement published in Course II of the Food Conservation Courses for Colleges to the effect that an average of 1300 dietary studies, largely American but some from other regions, shows an average of 4.5 ounces of fat per person per day. Our study showed an average of 4.9 ounces per day, but it must be remembered that our study was made in the coldest part of the year when the fat in the diet is likely to be at its highest. Since the food was neither unpleasant nor indigestible on account of its high fat content, and since fat may replace carbohydrate to a very large extent, limited chiefly by taste and convenience, the only argument against this use of fat is the patriotic one. But this study was of pre-war conditions when we felt that we were doing our whole duty if we made sure that no uneaten fat was wasted. The war rations of the College differ in this and many other particulars from the diet of those days, but a study of present conditions, while interesting in itself, would be of less value for comparison with other earlier studies.

A. L. MACLEOD,
M. A. GRIGGS.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Coöperation, The Hope of the Consumer. BY EMERSON P. HARRIS. New York: Macmillan Company, 1918, pp. 322. $2.00. By mail of the Journal, $2.15.

In our definition of democracy we are too apt to emphasize one phase of it to the neglect of others. It is political democracy that we stress, a form that we have attained in some measure in the United States. Real democracy has been defined by Mr. Roosevelt as "equal opportunity for all, special privilege for none."

Mr. Harris in this most interesting volume has shown us a way to move toward this economic democracy, through coöperation. Our present distributive system, based on private profit and competition, causes great social waste. Its aggressive selling methods cost the consuming public two billion dollars a year, and, what is more important, force goods upon the consumer to his detriment. Our whole economic system is based upon the fact that man has certain wants which he seeks to gratify. Progress comes with the stimulation of new wants. But a highly important problem is what wants to stimulate. Shall we have a system which will stimulate wants for goods which will provide the producer and distributor with a good profit, and, perhaps, injure the consumer, or at least oblige him to pay more for the goods than they are worth, or, shall we have a system of coöperation in which the consumer is given full and reliable information as to the nature and value of products, and is assisted in making a choice most advantageous to him? Salesmanship is confounded by its own exponents when one of them defines it as "the power to persuade people to purchase at a profit." Aggressive advertising can also be indicted on the score that it magnifies the importance of things and creates an atmosphere favorable to materialism, a philosophy the results of which our men in the trenches are now fighting.

Under ceaseless competition between dealers there is every inducement to debase goods. "The public has a right to know the real facts about its purchases." We are told that the consumer, and more particularly the housewife, should inform herself as to the articles which she must purchase. But it is practically out of the question to be well informed as to the nature, utility, value, and fair price of all that one must buy.

Mr. Harris is not in sympathy with those who sweepingly condemn the middleman. There are certain functions which have to be performed, if not by the middleman, then by someone else. The same services must be performed, but they can and must be performed for less than the present charges. It is a question of difference in motive, of improved methods and inventions. Consumers must build and own the machinery of distribution and operate it in their own interest. Through coöperation consumers can secure their supplies at the exact cost of wholesale buying, plus that of transporting and breaking up into small quantities, the minimum cost at which distribution can be carried on. Under a system of cooperation the results of all economies go automatically to the consumers and not to swell the middlemen's profits.

Mr. Harris demonstrates the democratic basis of the Rochdale plan of coöperation, giving an account of its success, not only in retail business, but also in wholesale and in manufacturing in England and Scotland.

It is only because of coöperation as between individuals that human beings are enabled to live together in a society. Our whole industrial system is based essentially upon coöperation. Else how could we have even the rudiments of a division of labor? Co-operation is not merely a way in which one may save a few dollars on one's grocery bill; it is a creed, a belief in the brotherhood of man, and the outcome of a desire that all should work together for the benefit of each. Since 1914 the membership in the European coöperative societies has been steadily and rapidly increasing. The spirit of coöperation is gaining ground among the higher and middle classes.

Mr. Harris fully realizes the difficulties of starting coöperative stores in America. There has been a false assumption that the dealer receives a large arbitrary profit and that profit could be cut out simply by starting a coöperative store. An educational program on a large scale is the first necessity, for the success of practical coöperation depends ultimately upon the faith of the consumer and his willingness to stand by his associates. The author gives many practical suggestions and examples of coöperative undertakings which have been successful in this country. The success of producers' co-operation is evidence that Americans can work together in this way. Can not the American consumer do the same thing?

This is a volume which every housewife should read with some thought. It is plain enough for the average reader and is still a philosophical and scholarly treatment of the subject. The arrangement of the material is most clear and compact; the table of contents is admirably full, showing the busy reader at a glance the parts in which he may have the greater interest; and, for those who would wish to go deeper into the subject, there is the nucleus of a bibliography and the full text of model laws and other documents.

CHASE GOING WOODHOUSE,
Smith College.

The Starvation Treatment of Diabetes. By LEWIS WEBB HILL, M.D., and RENA S. ECKMAN. Boston: W. M. Leonard, 3d ed., 1917, pp. 134. $1.25. By mail of the Journal, $1.35.

The so-called Starvation Treatment otherwise known as the Allen Treatment with more or less modifications, is now used almost entirely in the treatment of diabetes. It is therefore imperative that every dietetian and every teacher of dietetics should be familiar with it.

The authors are well qualified to handle the subject, Doctor Hill being on the staff of both the Children's Hospital, Boston, and the Harvard Medical School. Miss Eckman has been for a number of years head dietitian at the Massachusetts General Hospital, Boston, and therefore presents the subject from a very practical standpoint.

It is of special interest to the dietitian although it is written for the practicing physician who is too busy to figure out dietary values. A chapter is devoted to the plan and details of the treatment followed by specific instructions for making the necessary urinary tests for sugar and acidosis. A graduated series of diet tables for patients ranging in weight from 88 to 176 pounds is given with the grams of protein, fat and carbohydrate, and the total calories. These tables are arranged for less fat than in the previous edition, owing to the proven tendency of high fat diets to produce acidosis. The quantities of foods making up the menus are given, not only in terms of grams for accurate work, but also in familiar servings, such as "2 slices, 6 inches long," "one heaping tablespoon," and "one small serving."

A number of very attractive recipes are given, including some special diabetic preparations.

A new feature of this edition is a table of analyses of diabetic foods, made by the Connecticut Agricultural Experiment Station.

Although the subject is a very technical one, the book is very clearly and interestingly written. LENNA F. COOPER.

Industrial Arithmetic for Girls. By NELSON L. RORAY. Philadelphia: P. Blakistons' Sons & Co., 1917, pp. 196. $.75. By mail of the Journal, $.85.

This Industrial Arithmetic is a compact little book of problems on a wide variety of subjects. Small as it is, it is a welcome addition to the meager list of books on applied mathematics for girls.

The general plan of the book is unusual. It consists almost entirely of examples with little explanatory matter. These examples are divided into groups called lessons. Fifty of these lessons are given over to special subjects such as angles and polygons, carpeting, recipes, tucks, areas of circles, the budget, insurance, household accounts, volumes of prisms, the nutritive value of food, the print shop. These lessons are arranged with little regard to sequence of subject matter, and they are interspersed with an equal number of so called review lessons made up of miscellaneous examples. It is difficult to understand the reason for this lack of continuity. For instance, what is the advantage of separating the lesson on garment design from that on tucks by seven other lessons on such totally unrelated subjects as carpeting, area of rectangles, and measurement in cooking, not to mention the miscellaneous reviews? Why should the lesson on recipes be separated from that on foods by seventy-seven totally unrelated lessons?

The problems in the review lessons also represent a strange sequence of topics. For instance, in one lesson selected at random five consecutive problems are devoted to the following subjects: floor plans, coal bins, frozen pineapple, cutting a piece of muslin, cooking meat. This is typical of the continual shifting of attention from one topic to another. It may be possible in this way to arouse sustained interest in the problems of the home and shop, and to develop skill in all these various applied problems, but it seems more reasonable to suppose that interest can be developed through focusing attention on one subject at a time, and that skill in the problems of the home or of the trade can best be developed by practice in the problems of that particular occupation.

This failure to group the problems with regard to subject matter may be due in part to the author's faith in the value of mental gymnastics, for he includes problems that could justify their appearance on no other basis than the one he so frankly offers. For instance: "If the rent of $5\frac{5}{12}$ acres of land is $\$21\frac{3}{4}$ (sic), what will be the rent of $19\frac{3}{16}$ acres of land at the same rate?" It seem sa pity to include in an industrial arithmetic examples that belong to the old fashioned puzzle type.

The question naturally arises as to the reason for calling this book an industrial arithmetic. To be sure, four of the 108 lessons are devoted to the print shop. But printing is not the only trade for girls, nor is it the only one that involves applied arithmetic. Is it true that general training is sufficient preparation for the use of arithmetic in all other trades?

The book is rich in material although its effectiveness is lessened by this lack of clearness of purpose. The interesting collection of problems will, however, serve admirably to enrich the content of arithmetic courses, and the book will prove a useful addition to the texts available for the education of girls.

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Patent and Proprietary Medicines. John Phillips Street. Chicago: American Medical Association, 535 N. Dearborn St., 1917, pp. 274. $1.25, postpaid.

Diseases of Nutrition and Infant Feeding. John Lovett Morse and Fritz B. Talbot. New York: The Macmillan Company, 1916, pp. 34€. $3.00.

Food Guide for War Service at Home. Prepared under the Direction of the United States Food Administration in coöperation with the Department of Agriculture and the Bureau of Education. New York: Charles Scribner's Sons, 1918, pp. 67. $.25.

Food and the War. United States Food Administration in coöperation with the Department of Agriculture and the Bureau of Education. Boston: Houghton Mifflin Co., 1918, pp. 379. $.80. Revised edition of the course offered for colleges.

Infant Feeding. Clifford G. Grulee. Third Edition Revised. Philadelphia: W. B. Saunders Company, 1917, pp. 326, illustrated. $3.25.

The Elements of the Science of Nutrition. Graham Lusk. Third Edition, Reset. Philadelphia: W. B. Saunders Company, 1917, pp. 641. $4.50.

War Bread. Alonzo E. Taylor. New York: The Macmillan Company, 1918, pp. 99. $.60.

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Suitable Storage Conditions for Certain Perishable Food Products. Bulletin No. 729, July 24, 1918.

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Children's Health Centers. Children's Year Leaflet No. 5.

Studies of Use of Milk by Families Having Little Children. II. Washington.

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Fuel Facts. August 1, 1918.

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Practical Patriotic Recipes. Hampton Normal and Agricultural Institute Bulletin Vol. 14, No. 1.

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Recipes for Jam-Making. Canada Food Board, Ottawa, 1918.

War Diet in the Home. Instructors' Manual. A. R. C. 706, June 21, 1918. American Red Cross, Department of Nursing.

War Ideas—To Make You Healthy, Wealthy, Wise. Compiled by the seniors and juniors of the Department of Home Economics, University of Wyoming, Laramie, Wyo.

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NUTRITION AND HEALTH

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Food Value of Bread. R. M. Allen, *N. Y. Med. Jour.*, Aug. 10, 1918. Modern view of the need of wheat bread in diet. Outlook for the year's crop of cereals. Introduction of milk solids in bread or suppiements of fruits and vegetables.

Undernutrition of Children. Dr. Anna Richardson, *N. Y. Med. Jour.*, July 20, 1918. Individual help to be given to 182 children by a proposed school lunch.

Some Relations of Diet to Disease. L. B. Mendel, *N. Y. Med. Jour.*, July 13, 1918. "Malnutrition" term little used now. "Deficiency Diseases" produce specific clinical manifestations due to lack of one of the two types of vitamines. New order of phenomena shows danger exists in restricted diets.

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A Clinical Consideration of the Etiological Importance of Fat. Harry Lowenberg. *Therapeutic Gazette*, July 15, 1918.

Congenital Syphilis and the Doctor. J. M. Wakefield, *N. Y. Med. Jour.*, Aug. 17, 1918. Definition. Symptoms. Six cases with history. Doctor's duty to the public.

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The Nutritive Value of Certain Fish. J. C. Drummond, *Jour. Phys.*, 52 (1918), Nos. 2 and 3, pp. 95–109. Summary as follows:

1. The coagulable proteins of the muscle tissue of cod, herring, and canned salmon possess a nutritive value as high as those derived from beef.

2. The so-called "fatty" fish, which contain considerable quantities of fat distributed throughout their muscle tissue, may serve as valuable sources of the important dietary essential, the fat-soluble "A."

3. Certain fish-liver oils are particularly rich in the fat-soluble accessory.

4. No appreciable amounts of the water-soluble or antineuritic factor were detected in the muscle tissues of the fishes examined. Small amounts were, however, present in extracts prepared from the whole herring, having originated in all probability from the reproductive organs, or other glandular organs.

The Vasodilator Action of Histamine and of Some Other Substances. H. H. Dale and A. N. Richards, *Jour. Phys.*, 52 (1918), Nos. 2 and 3, pp. 110–165.

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The Relation of the Nurse to the Conservation Program. Edna N. White, *Amer. Jour. Nursing*, Sept.

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Vocational Education under the Smith-Hughes Act. C. A. Prosser, *Educ. Admin. and Supervision*, June.

NEWS FROM THE FIELD

Honorary Memberships. The American Home Economics Association has honored itself by inviting a number of distinguished people to become honorary members of the Association. Acceptances to the invitations have been received from Mr. Herbert Hoover and Mrs. Hoover—whom we are all delighted to honor; from Dr. E. V. McCollum, who served the Association in so many ways; from Lord Rhonda, formerly Food Controller for England, who wrote shortly before his death; from Silvio Crispi, Food Controller for Italy; from M. E. Gley of the French Food Administration, and M. Vilgrain, Deputy Food Commissioner for France; and from Prof. E. H. Starling of the Royal Society, London. It is a great privilege to welcome these members, and it should also be an incentive toward making the Association worth while in every way.

Among the changes in positions that have taken place this fall the following may be noted:

Josephine Berry has resigned from the professorship of home economics at the University of Minnesota, and Mildred Weigley has become head of the department. Miss Weigley has been acting head during the past year during Miss Berry's service on the Vocational Education Board.

Dr. Amy Daniels, formerly of the University of Wisconsin, is in charge of the Nutrition Laboratory of the Child Welfare Research Station at the University of Iowa, Iowa City. This research station coöperates with the Medical School and other departments of the University.

Dr. Ruth Wheeler, for many years at the University of Illinois, is in charge of the work in Home Economics at Goucher College, Baltimore.

Jean Mackinnon, who was last year with the Department of Agriculture, is substituting for Miss Sweeney.

Georgia White, formerly Dean of Women at the Michigan Agricultural College, has become Dean of Women at Cornell University. Mary Edmunds has taken her place as Dean of Home Economics at Michigan.

Emmeline Whitcomb has left the University of Wyoming to become head of the Department of Home Economics at the University of Montana, and Greta Gray, from the Pittsburg Normal School, is to take Miss Whitcomb's place at Wyoming.

Jessie Hoover has resigned from Idaho Agricultural College to become Federal Leader of Dairy Agents, Office of Extension Work North and West, U. S. Department of Agriculture, in coöperation with the Dairy Division.

Mrs. Ellen Dabney is on leave of absence from her supervisorship of the city schools in Seattle and is City Home Demonstration Agent for the District of Columbia.

Dr. Louise Stanley has leave of absence from the University of Missouri to be Special Agent of the Federal Board of Vocational Education.

Adelaide Baylor, formerly State Supervisor of Home Economics for Idaho, is also serving upon the same Board.

Gertrude Van Hoesen, who has resigned from the University of Chicago, and Emma Conley of the University of Wisconsin, and Winifred Gibbs, formerly of the A. I. C. P., New York City, are Assistants in the Extension Work for Women, Office of Extension Work, North and West.

Mrs. Roger Adams (Lucile Wheeler) of the University of Illinois, is in charge of the Experimental Laboratory of the Food Administration.

Dr. Minna Denton has leave of absence from Lewis Institute, where she had accepted a position, and is in charge of the Experimental Laboratory at the Department of Agriculture.

Dr. Katharine Blunt has been made Associate Professor at the University of Chicago, and is Chairman of the Department of Home Economics in the School of Education.

Grace Hood has resigned from Lewis Institute and is to be this year in charge of the Home Economics work at the University of Cincinnati.

Mary Sweeney has a leave of absence from the University of Kentucky and is in France, doing canteen work for the Young Men's Christian Association.

Notes from the The Stout Institute. The school of Household Arts of The Stout Institute has completed the second year in its new building. one of the largest and most complete of its kind in the country. The basement contains locker rooms, laundry, refrigeration room, recitation rooms, and store rooms. The first floor is used for administration offices, library and auditorium. The second floor is devoted to the work of clothing and textiles and consists of six laboratories, with recitation rooms, offices, and rest rooms.

The department of foods and cookery occupies the third floor, with four large kitchen laboratories, and four smaller laboratories for special experimental or practice work, and the usual lecture rooms and offices. Each laboratory is equipped with a built-in refrigerator, cooled by a refrigeration system. Four science laboratories, two art rooms, an amphitheatre seating two hundred and fifty, research laboratories, a dark room for lantern work, are on the fourth floor.

The passage by the legislature of the bill granting to The Stout Institute the power to confer the B.S. degree in Household Arts and in Industrial Arts made it possible to offer a greater variety of courses during the past year, both technical and scientific, as well as academic and cultural, such as history, economics, and literature.

Both the faculty and students of the Institute have taken an active part in war work. Miss Kugel, director of The School of Household Arts, is a member of the Woman's Committee of the Council of Defense, and chairman of the County Food Conservation Committee. Others of the faculty have lectured on Conservation. Students have been giving demonstrations throughout the year, thus having an opportunity for service as well as gaining valuable experience and practice. Classes have been held for the training of county women as demonstration leaders. A war kitchen, for the women of the community, has been maintained during the summer and the fall months. Every course in foods, from the eighth grade practice classes to the advanced work in experimental cookery, has stressed the present problems, so that students possess the knowledge and ability as well as the enthusiasm that enables them to be most intelligent Food Administration workers. A special course on "The Present Food Problem" has been required of all students.

In the clothing courses Red Cross hospital garments, and garments for Belgian relief have supplemented or have been substituted for the usual work, whenever possible, and special classes in surgical dressings have been arranged. Menomonie's Public Schools have a progressive and effective Junior Red Cross. The work and activities on sewing are under the direction of Miss Holman, Supervisor of the Domestic Art Practice Work in the Institute, so that practice teachers have conducted work in the public school classes.

The Stout Institute has been placed on the same basis as the other state schools, with free tuition for Wisconsin students.